What is claimed is:

1. A compact drive, comprising at least three drive components, such as an electric motor, a gear unit, and an electronic circuit, in particular a frequency converter, a central housing part being provided, and each drive component being surrounded by the central housing part and at least one housing cover of the respective drive component to form a specific housing.

2. A compact drive, comprising at least three drive components, such as an electric motor, a gear unit, and an electronic circuit, in particular a frequency converter, a central housing part being provided, and the stator of the electric motor being detachably connected to the central housing part via, in particular, a clamping joint.

3. A compact drive, comprising at least an electric motor, a brake, a gear unit, and a frequency converter, the output shaft of the gear unit and the rotor shaft being positioned in parallel to each other, and the shaft-center distance being determined by at least one gear stage; the first gear stage including a first toothed member connected to the rotor shaft, and a second toothed member, which engages with the first toothed member and is connected to an intermediate shaft; the brake, including at least one brake-rotor shaft, being integrated in the housing of the compact drive, the brake-rotor shaft being parallel to the rotor shaft, the brake-rotor shaft being connected to a toothed member, which engages with the second toothed member, and the electronics compartment for the frequency converter not being sealed with respect to the compartment of the electric motor.

4. A compact drive, comprising at least an electric motor, a brake, a gear unit, and a frequency converter, the output

shaft of the gear unit and the rotor shaft being positioned in parallel to each other, and the shaft-center distance being determined by at least one gear stage, the first gear stage including a first toothed member connected to the rotor shaft, and a second toothed member, which engages with the first toothed member and is connected to an intermediate shaft, the brake, including at least one brake-rotor shaft, being integrated in the housing of the compact drive, the brake-rotor shaft being parallel to the rotor shaft, the brake-rotor shaft being connected to a toothed member, which engages with the second toothed member, and the rotor shaft and at least one shaft of the gear unit being supported in the same housing part, in particular in a central housing part.

5. The compact drive as recited in Claim 3 or 4, wherein the brake is an electromagnetically operable brake.

6. The compact drive as recited in Claim 3 or 4, wherein a piezoelectrically operating brake is provided as a brake.

7. The compact drive as recited in at least one of the preceding claims, wherein at least one gear stage is a spur-gear stage.

8. The compact drive as recited in at least one of the preceding claims, wherein the gear stage is a variable transmission, in particular a continuously variable, wide-belt transmission or a chain drive.

9. The compact drive as recited in at least one of the preceding claims, wherein the electric motor is a synchronous motor and/or a permanent-magnet motor.

10. The compact drive as recited in at least one of the preceding claims, wherein the frequency converter is positioned laterally with respect to the rotor shaft.

11. The compact drive as recited in at least one of the preceding claims, wherein the gear region is sealed with respect to the environment and the region of the motor, as well as with respect to the electronics compartment.

12. The compact drive as recited in at least one of the preceding claims, wherein the gear region, the region of the motor, and the electronics compartment are at approximately the same temperature.

13. The compact drive as recited in at least one of the preceding claims, wherein the motor has a sensor, in particular one including a resolver stator and a resolver rotor.

14. The compact drive as recited in at least one of the preceding claims, wherein the rotor shaft and at least one shaft of the gear unit are supported in the same housing part.

15. The compact drive as recited in at least one of the preceding claims, wherein only a single shaft-sealing ring runs on the rotor shaft.

16. The compact drive as recited in at least one of the preceding claims, wherein three shaft-sealing rings run on the output shaft.

17. The compact drive as recited in at least one of the preceding claims, wherein the housing is made up of housing parts and housing covers, in particular one or two central housing parts and one housing cover.

18. The compact drive as recited in at least one of the preceding claims, wherein the housing does not have any cooling fins or cooling fingers.

19. The compact drive as recited in at least one of the preceding claims, wherein a housing cover is connected to an electronic circuit, and/or an electronic circuit is integrated in the housing cover.

20. The compact drive as recited in Claim 19, wherein the housing cover, including the electronic circuit, is electrically connected to the rest of the compact drive by an electric plug-and-socket connector, in particular for quickly and easily replacing the housing cover in the event of maintenance work or repairs.

21. The compact drive as recited in at least one of the preceding claims, wherein the housing cover for the electronic circuit is detachably connectible to the central housing part, a heat barrier being provided in the connection.

22. The compact drive as recited in at least one of the preceding claims, wherein the heat barrier takes the form of a seal or a plastic housing part.

23. The compact drive as recited in at least one of the preceding claims, wherein the housing cover for the electronic circuit is oriented so that its normal direction is perpendicular to the output shaft.

24. The compact drive as recited in at least one of the preceding claims, wherein electrical connection terminals for load leads are provided on one housing part of the compact drive.

25. The compact drive as recited in at least one of the preceding claims, wherein the compact drive includes at least one electronic circuit for modulating or demodulating information upon the load leads, in particular in accordance with Powerline, FSK, or a similar method.

26. The compact drive as recited in at least one of the preceding claims, wherein the gear stage furthest to the output side is manufactured as a right-angle gear stage, in particular as a worm-gear stage, bevel-gear stage, or spiroid-gear stage.

27. The compact drive as recited in at least one of the preceding claims, wherein instead of the brake, an energy-storage mechanism, such as a flywheel or rotating mass, is provided.

28. The compact drive as recited in at least one of the preceding claims, wherein one or more sensors are connected to the electronic circuit; in response to the mounting of the housing cover, the sensors being positionable in such a manner that values of physical variables of the motor region, such as temperature, angular speed of the rotor, angle of the rotor, or the like, may be determined.

29. The compact drive as recited in at least one of the preceding claims, wherein the electronic circuit is designed so that the temperature of the central housing part may be monitored, controlled, and/or regulated.

30. The compact drive as recited in at least one of the preceding claims, wherein the braking resistor and lubricant are connected in a manner allowing effective heat conduction,

so that the lubricant may be heated and/or warmed up by the braking resistor.

31. The compact drive as recited in at least one of the preceding claims, wherein the heat-transfer resistance from the braking resistor to the lubricant, in particular to the gear lubricant agitated during operation, is less than that from the braking resistor to the environment.

32. The compact drive as recited in at least one of the preceding claims, wherein the heat-transfer resistance from one of the stator windings to the lubricant, in particular to the gear lubricant agitated during operation, is less than that from the stator winding to the environment.

33. The compact drive as recited in at least one of the preceding claims, wherein the braking resistor is situated in a recess, depression, and/or pocket of the central housing part 71.

34. The compact drive as recited in at least one of the preceding claims, wherein the braking resistor extends into the gear region in such a manner, that the housing pocket is situated closer to the input side than to the output side.

35. The compact drive as recited in at least one of the preceding claims, wherein the electronic circuit includes an electronic type label, and/or the electronic circuit is connected to a bus, in particular a field bus.

36. The compact drive as recited in at least one of the preceding claims, wherein the core assembly of the stator of the motor, including the stator windings, is supported in the central housing part.

37. The compact drive as recited in at least one of the preceding claims, wherein the core assembly of the stator of the motor, including the stator windings, is detachably connected in the central housing part.

38. The compact drive as recited in at least one of the preceding claims, wherein the core assembly of the stator of an angular-position sensor and/or angular-speed sensor is detachably connected in the central housing part.

39. The compact drive as recited in at least one of the preceding claims, wherein the core assembly includes teeth, onto which the stator windings are slid, or around which the stator windings are wound.

40. An axially offset, right-angle gear stage for a compact drive, a central housing part being provided, and each drive component being surrounded by the central housing part and at least one housing cover of the respective drive component to form a specific housing.

41. The right-angle gear stage as recited in Claim 40, wherein the right-angle gear stage includes a wheel and a pinion engaging with it, the wheel being provided with gear teeth on its front side, and/or the pinion having a cylindrical contour at its outer periphery.

42. The right-angle gear stage as recited in Claim 40, wherein the right-angle gear stage is a spiroid gear stage; in particular, the pinion axis does not intersect the wheel axis and is oriented perpendicularly to it, the axial offset being less than the pitch-circle radius of the gear teeth of the wheel.

43. A method for manufacturing a drive unit that includes at least one electric motor, wherein a central housing part is provided, which, during manufacture,

- is initially machined, in particular, initially machined by a cutting tool;
- and into which the stator of the electric motor is subsequently introduced and detachably connected;

the stator of the electric motor being detachably connected to the central housing part via, in particular, a clamping joint.